Bently Nevada 330851-02-000-050-90-00-CN

01 Function and selected configuration

Product function

Bently Nevada 330851-02-000-050-90-00-CN supports non-contact observation of rotor growth relative to the turbine casing. The long integral lead carries the probe signal to a remotely mounted conditioner without treating a short-lead extension arrangement as interchangeable.

Selected configuration

The M30×2 probe has a 50 mm overall case length, a zero unthreaded-length selection and a 9.0 m total lead. The selected 00 armor option uses an unarmored lead. PEEK forms the probe tip, AISI 304 stainless steel forms the case, and the 75 Ω triaxial FluidLoc cable uses PFA insulation.

Functional path

Rotor collar / ramp	9.0 m 25 mm probe	Matched cable / Proximitor	DE monitor channel

Case interface	M30×2 threaded construction
Integral lead	9.0 m unarmored FluidLoc cable
Matched-system output	0.787 V/mm nominal

The 9 m probe lead must be treated as part of the corresponding 9 m calibrated system, not extended as though it were the 1 m version. Its disconnected center-to-outer-conductor resistance is 8.8 ± 1.1 Ω. The Proximitor Sensor provides the electrical excitation and conditioned output; the probe is not a stand-alone voltage transmitter.

330851-02-000-050-90-00-CN / Technical operating envelope

02 Technical operating envelope

Transducer family	3300 XL 25 mm
Mounting thread	M30×2
Overall case length	50 mm
Unthreaded-length selection	0 mm
Total probe lead	9.0 m
Lead armor	None

Probe resistance, center to outer	8.8 ± 1.1 Ω
Probe tip / case material	PEEK / AISI 304 stainless steel
Cable construction	75 Ω triaxial, PFA-insulated FluidLoc
Matched-system scale factor	0.787 V/mm nominal
Matched-system linear range	12.7 mm under specified calibration conditions
Probe continuous temperature	-35 to +200 °C

Range and sensitivity describe the matched transducer system. The probe itself is passive; DC supply and conditioned output belong to the Proximitor Sensor. Use the 9 m probe resistance for continuity assessment.

Output loading

Reference performance uses a 10 kΩ load. Sensor output resistance is 50 Ω; assess the receiving channel and field wiring together.

Temperature conditions

Continuous probe operation is -35 to +200 °C. Short-term exposure up to +250 °C is limited to less than 24 hours.

330851-02-000-050-90-00-CN / System integration and applications

03 System integration and applications

Long-lead integrity

Keep the 9 m probe lead intact, route the excess without sharp bends and use the matching 9 m conditioner arrangement.

Turbine collar observation

Measure differential rotor-to-casing growth with a correctly aligned and gapped matched transducer chain.

Complementary DE channels

Use opposing collar faces only with the intended two-channel arrangement and corresponding monitor configuration.

Controlled displacement verification

Move the probe mounting relative to the target and compare the electrical indication with a mechanical movement reference.

System and supply context

This 9.0 m probe is one component of the 3300 XL 25 mm transducer chain. The Proximitor Sensor, any required extension cable, brackets and monitor are separate unless itemized.

Application boundary

Differential-expansion performance depends on the collar or ramp geometry, target material and configured channel arrangement. Mechanical fit alone does not establish electrical or calibration compatibility.

Which resistance value distinguishes the long-lead version of 330851-02-000-050-90-00-CN?

The 9.0 m probe has a center-to-outer-conductor resistance of 8.8 ± 1.1 Ω. The 6.2 ± 0.5 Ω value belongs to a 1 m probe and is not the correct acceptance reference for this lead.

330851-02-000-050-90-00-CN / Engineering selection decisions

04 Engineering selection decisions

Can the 9.0 m lead of 330851-02-000-050-90-00-CN be shortened to fit a smaller cabinet route?

Do not shorten the calibrated lead or choose the sensor by available routing space. Preserve the 9 m electrical-length arrangement and use the corresponding 3300 XL 25 mm system configuration.

Does the 9 m lead on 330851-02-000-050-90-00-CN permit an extra 8 m extension cable?

Not as a standard 9 m calibrated chain. The selected probe lead already has the 9 m total-length option. Additional extension changes the electrical length and must not be treated as a matching standard arrangement.

Why can a less negative supply reduce range with 330851-02-000-050-90-00-CN?

Operating the Proximitor Sensor at a voltage more positive than -23.5 Vdc can reduce the linear range. Check the voltage at the sensor terminals under load instead of relying only on the nominal supply label.

How should a lead fault be separated from a target problem when checking 330851-02-000-050-90-00-CN?

With the system isolated, inspect the lead and connector and compare the disconnected probe resistance with the 9 m value. Then verify target geometry and controlled displacement response with the correctly matched Proximitor Sensor.

Separate torque limits	Do not apply probe-body tightening torque to the electrical connector; connector maximum is 0.565 N·m.
Observe thermal boundaries	Apply probe, cable and Proximitor Sensor temperature limits separately; avoid treating short-term exposure as continuous service.

330851-02-000-050-90-00-CN / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support phase of 330851-02-000-050-90-00-CN is unconfirmed. Confirm the exact hardware configuration and available service route before planning a replacement.

Replacement assessment

Match the complete probe configuration and electrical length. Upgrades from 7200 or 25 mm DE Integral equipment require replacement of the probe, extension cable and Proximitor Sensor as a matched 3300 XL 25 mm system.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 3300 XL 25 mm Proximity Transducer System, 163236 Rev. M.

Related product navigation

- Bently Nevada 330851-04-000-040-10-01-00
- Bently Nevada 330851-01-000-020-10-00-00
- Bently Nevada 330851-02-000-080-10-00-00

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries